

## **General Disclaimer**

### **One or more of the Following Statements may affect this Document**

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

"Made available under NASA sponsorship  
in the interest of early and wide dis-  
semination of Earth Resources Survey  
Program information and without liability  
for any use made thereof."

JUSTIF  
E82-10342  
CR-168959

Quarterly Status and Technical Progress Report #8

(Covering the Period 1 October 1981 to 31 December 1981)

NASA Contract NAS5-25957 (MAGSAT)

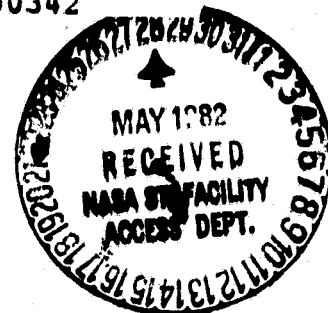
(E82-10342) INVESTIGATION OF GEOMAGNETIC  
FIELD FORECASTING AND FLUID DYNAMICS OF THE  
CORE quarterly Status Technical Progress  
Report, 1 Oct. - 31 Dec. 1981 (Colorado  
Univ.) 3 p HC A02/MF A01

N82-25604

Unclas  
00342

CSCL 08G G3/43

Investigation of Geomagnetic Field Forecasting  
and Fluid Dynamics of the Core



Principal Investigator: Edward R. Benton

Department of Astro-Geophysics, University of Colorado

Boulder, Colorado 80309

1 January 1982

RECEIVED

JAN 12, 1982

SIS/902.6

M-036

TYPE II

1. Problems

None

2. Approach

No new approaches have been developed during this reporting period.

3. Accomplishments

This quarter's effort concentrated on bringing together a number of results achieved on this project, which are discussed in previous progress reports, and writing up three papers for the special MAGSAT issue of Geophysical Research Letters being edited by Dr. R.A. Langel. Those papers present a concise summary of accomplishments to date.

4. Significant Results

These are the subject of the three papers listed below.

5. Publications

The following papers have been submitted to Geophysical Research Letters (the first paper is accepted; the second is accepted after minor revision; no information is yet available on the status of the third).

- a. Benton, E.R., Estes, R.H., Langel, R.A., and Muth, L.A., "Sensitivity of Selected Geomagnetic Properties to Truncation Level of Spherical Harmonic Expansions".
- b. Voorhies, C.V. and Benton, E.R., "Pole-strength of the Earth from MAGSAT and Magnetic Determination of the Core Radius".

c. Benton, E.R. and Coulter, M.C., "Frozen-flux Upper Limits to the MAGSAT Geomagnetic Gauss Coefficients and Relative Multipole Indices for Earth".

6. Recommendations

None

7. Data Utility

Papers a, b, c above all rely heavily on MAGSAT data.

Paper b, especially, makes indispensable use of the Goddard models of the data.